



PhD fellowships starting Fall 2021

COHMAS, KAUST invites applications for 3 fully-funded PhD (and similar MS/PHD) positions in Mechanical Engineering, starting Fall 2021.

Topic 1: New thermoplastics materials for Energy and Mobility applications

We are in the process of developing new generations of thermoplastics materials with self-healing capabilities. This proprietary development, in partnerships with major industrial partners, aimed at having an impact in the usage of thermoplastics in major Energy and Mobility application, including Oil and Gas exploration and Hydrogen storage.

The PhD will focus on the concept validation, including formulation (in collaboration with Chem. Sc. Programs), integration, processing, as well as the modeling in both micro and damage mechanics frameworks.

Topic 2: Data driven and model-free simulations in Solid mechanics

Online with the development of KAUST strength in Artificial Intelligence and machine learning, we aim at exploring the potential of image-based techniques for direct Data-driven and Model-free Simulations.

The PhD candidate will integrate our existing team on this topic and focus on non-linear applications of the techniques we recently developed. This PhD will include tight collaboration with other groups with Imaging, Virtualization and AI background.

Topic 3: Morphing and programmable materials for Robotics

Our team recently developed a new family of materials that can change their constitutive response depending on some external stimuli. Using phase-change as an underlying concept, we have developed sensors, actuators and modulus-tunable materials, which can lead to a shift in paradigm in soft robotics or 3D -printed mechanical systems.

The PhD candidate will be in charge of solving fundamental questions related to such systems, such as symmetry of operation, energy efficiency, and integration in systems with active and complex control as well as modeling.

Interested applicants should send their complete application packets to:

Prof. Gilles Lubineau (gilles.lubineau@kaust.edu.sa), cc huiping.chen@kaust.edu.sa

For more information about application requirements, please visit:

<https://cohmas.kaust.edu.sa/join-us>

